

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (currently amended): A process for producing a lead-acid battery comprising the step of welding together a lead bushing integrally cast in a lid of an assembled lead-acid battery and a pole inserted through the lead bushing by a laser welding,
wherein both the pole and the lead bushing are made of a lead-calcium based alloy.

Claim 2 (currently amended): A process for producing a lead-acid battery comprising the steps of:

welding together a lead bushing integrally cast in a lid of an assembled lead-acid battery and a pole inserted through the lead bushing by laser welding; and

welding the lead bushing and a tab terminal member fitly mounted on the lead bushing together by laser welding,

wherein both the pole and the lead bushing are made of a lead-calcium based alloy.

Claim 3 (previously presented): A process for producing a lead-acid battery according to claim 1 or 2, wherein the pole and the lead bushing are made of a lead-calcium based alloy.

Claim 4 (previously presented): A process for producing a lead-acid battery according to claim 1 or 2, wherein the pole is provided with a columnar projection or a hollow cylindrical projection at the center of the upper end surface thereof.

Claim 5 (currently amended): A process for producing a lead-acid battery ~~according to claim 1 or 2~~ comprising the step of welding together a lead bushing integrally cast in a lid of an assembled lead-acid battery and a pole inserted through the lead bushing by a laser welding,

wherein at the time of the laser welding, a laser beam of a low output is applied and thereafter a laser beam of a high output is applied.

Claim 6 (original): A process for producing a lead-acid battery according to claim 5, wherein the first round of the application of the laser beam is made at the low output and the second round thereof is made at the high output reduced stepwise at the plural number of stages.

Claim 7 (previously presented): A process for producing a lead-acid battery according to claim 1 or 2, wherein the laser welding is of a pulsed type.

Claim 8 (currently amended): A process for producing a lead-acid battery ~~according to claim 1 or 2~~ comprising the step of welding together a lead bushing integrally cast in a lid of an assembled lead-acid battery and a pole inserted through the lead bushing by a laser welding,

wherein a ~~[[1ap]]~~ lap density of beads in the laser welding of a pulsed type is in a range of 6 to 12 points per mm.

Claim 9 (currently amended): A process for producing a lead-acid battery ~~according to claim 1 or 2~~ comprising the step of welding together a lead bushing integrally cast in a lid of an assembled lead-acid battery and a pole inserted through the lead bushing by a laser welding,

wherein at the time of laser-welding by applying the laser to terminal portions to be welded of the lead-acid battery, the terminal portions are surrounded by a lower cylindrical end portion of a cylindrical shield, and, in this state, fumes generated at the time of the laser-welding are sucked to be exhausted to the outside of the cylindrical shield through the exhaust port in the cylindrical shield.

Claim 10 (original): A process for producing a lead-acid battery according to claim 9, wherein there is used such a process for laser-welding of the terminal portions that a discharge opening is made in the cylindrical shield, and oxygen or air is supplied through the discharge opening to the portions to be welded.

Claim 11 (previously presented): A process for producing a lead-acid battery according to claim 9, wherein a shroud ring having the plural number of communication openings provided circumferentially in its peripheral wall is installed in the cylindrical shield with an annular space being left between the shroud ring and the inner peripheral wall surface of the cylindrical shield so that fumes generated in the shroud ring may be sucked to be exhausted out of the cylindrical shield through the communication openings of the shroud ring, the annular space surrounding thereof and the exhaust port, together with a shielding fluid flowed through the discharge opening into the cylindrical shield.

Claim 12 (original): A process for producing a lead-acid battery according to claim 11, wherein the plural number of communication holes made at regular intervals in the shroud ring are formed into those which are open in a circumferentially tangent direction of the ring, whereby an eddy flow is occurred in the fumes generated inside the shroud ring and is sucked to be exhausted.

Claim 13 (previously presented): A process for producing a lead-acid battery according to claim 9, wherein an annular notched step is provided on a peripheral outer surface of the lead bushing defining an outer peripheral surface of the terminal portions, and the lower cylindrical end portion of the cylindrical shield having a good heat-conductivity is fitly mounted on the step thereof.

Claims 14-15 (canceled).

Claim 16 (new): A process for producing a lead-acid battery comprising the steps of:
welding together a lead bushing integrally cast in a lid of an assembled lead-acid battery
and a pole inserted through the lead bushing by laser welding; and
welding the lead bushing and a tab terminal member fitly mounted on the lead bushing
together by laser welding,
wherein at the time of the laser welding, a laser beam of a low output is applied and
thereafter a laser beam of a high output is applied.

Claim 17 (new): A process for producing a lead-acid battery according to claim 16,
wherein the first round of the application of the laser beam is made at the low output and the
second round thereof is made at the high output reduced stepwise at the plural number of stages.

Claim 18 (new): A process for producing a lead-acid battery comprising the steps of:
welding together a lead bushing integrally cast in a lid of an assembled lead-acid battery
and a pole inserted through the lead bushing by laser welding; and
welding the lead bushing and a tab terminal member fitly mounted on the lead bushing
together by laser welding,

wherein a lap density of beads in the laser welding of a pulsed type is in a range of 6 to 12 points per mm.

Claim 19 (new): A process for producing a lead-acid battery comprising the steps of:
welding together a lead bushing integrally cast in a lid of an assembled lead-acid battery and a pole inserted through the lead bushing by laser welding; and
welding the lead bushing and a tab terminal member fitly mounted on the lead bushing together by laser welding,

wherein at the time of laser-welding by applying the laser to terminal portions to be welded of the lead-acid battery, the terminal portions are surrounded by a lower cylindrical end portion of a cylindrical shield, and, in this state, fumes generated at the time of the laser-welding are sucked to be exhausted to the outside of the cylindrical shield through the exhaust port in the cylindrical shield.

Claim 20 (new): A process for producing a lead-acid battery according to claim 19, wherein there is used such a process for laser-welding of the terminal portions that a discharge opening is made in the cylindrical shield, and oxygen or air is supplied through the discharge opening to the portions to be welded.

Claim 21 (new): A process for producing a lead-acid battery according to claim 19, wherein a shroud ring having the plural number of communication openings provided circumferentially in its peripheral wall is installed in the cylindrical shield with an annular space being left between the shroud ring and the inner peripheral wall surface of the cylindrical shield so that fumes generated in the shroud ring may be sucked to be exhausted out of the cylindrical shield through the communication openings of the shroud ring, the annular space surrounding thereof and the exhaust port, together with a shielding fluid flowed through the discharge opening into the cylindrical shield.

Claim 22 (new): A process for producing a lead-acid battery according to claim 21, wherein the plural number of communication holes made at regular intervals in the shroud ring are formed into those which are open in a circumferentially tangent direction of the ring, whereby an eddy flow is occurred in the fumes generated inside the shroud ring and is sucked to be exhausted.

Claim 23 (new): A process for producing a lead-acid battery according to claim 19, wherein an annular notched step is provided on a peripheral outer surface of the lead bushing defining an outer peripheral surface of the terminal portions, and the lower cylindrical end portion of the cylindrical shield having a good heat-conductivity is fitly mounted on the step thereof.